

Bölüm 7

AKUT ROMATİZMAL ATEŞ VE ROMATİZMAL KALP RAHATSIZLIĞININ ÇOCUK DİŞ HEKİMLİĞİNDEKİ YERİ

Aslı SOĞUKPINAR ÖNSÜREN¹

Katibe Tuğçe TEMUR²

GİRİŞ

Akut romatizmal ateş (ARA), A grubu Beta hemolitik streptokok (GAS) enfeksiyonuna karşı gelişen otoimmün bir yanıttır.^(1,2,3) GAS; farenjit ve impetigo gibi yüzeysel enfeksiyonlardan, nekrotizan fasilit ve streptokokal toksik şok sendromu gibi invaziv enfeksiyonlara kadar geniş hastalıklara yol açabilir.^(1,4) Bu durumun daha çok farenjitten kaynaklandığı düşünülür.^(1,2,3) Kalp, deri, beyin ve eklem iltihabı ile de ilişkilendirilir.⁽⁵⁾ En sık görülen klinik rahatsızlıklar (kalpte tutulum olabilir veya olmayabilir) poliatrit ve ateştir. Sydenham koresi, genellikle Aborjin nüfusunda görülür ve vakaların yaklaşık ¼'ünü oluşturur.⁽⁶⁾ Akut hastalık; artritten kaynaklı ağrı, kalp yetmezliği ile ilişkili nefes alamama ve ödem, yüksek ateş ve günlük yaşamı kısıtlayan koreiform hareketlere yol açabilir. ARA, teşhisi ve tedavisi zordur ve 2-3 hafta uzman tedavi yaklaşımı gerekir. ARA'nın klinik özelliklerinin çoğu hastanede kalış süresinde düzeltilir; bununla birlikte kardiyak hasar devam edebilir.⁽⁷⁾

ARA vakalarının tahminen %60' ında kronik romatizmal kalp hastalığı (RKD) görülebilir.⁽⁴⁾ Ciddi geçirilen bir atak veya tekrarlayan ARA atakları RKD' ye yol açabilir.⁽⁵⁾ RKD, romatizmal ateş ve kronik romatizmal kalp rahatsızlığının en ciddi komplikasyonudur.⁽⁸⁾ ARA'dan kaynaklı otoimmün mekanizma kendi antijenleri ile reaksiyona giren antikorların ve T hücrelerinin üretimi içerir. Yapılan araştırmalarda ölümü takiben ARA hastalarının miyokard ve kalp kapaklarında antikor biriktiği⁽⁹⁾, interstisyel immün nodüller (Aschoff cisimcikleri)⁽¹⁰⁾, CD4+ ve CD8+ T hücrelerinin romatizmal kalp kapağı endoteliumuna bağlandığı saptanmıştır.⁽¹¹⁾

¹ Dr. Öğr Üyesi, Kahramanmaraş Sütçü İmam Üniversitesi, aslisdt@gmail.com

² Dr. Öğr Üyesi, Niğde Ömer Halisdemir Üniversitesi, tugcetemur@ohu.edu.tr

KAYNAKLAR

1. Parks T, Smeesters PR, Steer AC. Streptococcal skin infection and rheumatic heart disease. *Curr Opin Infect Dis.* 2012;25:145–153.
2. McDonald M, Currie BJ, Carapetis JR. Acute rheumatic fever: A chink in the chain that links the heart to the throat? *Lancet Infect Dis.* 2004;4:240–245.
3. Martin DR, Voss LM, Walker SJ, et al. Acute rheumatic fever in Auckland, New Zealand: Spectrum of associated group A streptococci different from expected. *Pediatric Infect DisJ.* 1994;13:264–269.
4. Carapetis JR, McDonald M, Wilson NJ. Acute rheumatic fever. *Lancet.* 2005;366:155–68.
5. ARF/RHD writing group. The Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (2nd edn). Casuarina, NT: RHD Australia, 2012.
6. Carapetis JR, Currie BJ. Mortality due to acute rheumatic fever and rheumatic heart disease in the Northern Territory: a preventable cause of death in aboriginal people. *Aust N Z J Public Health.* 1999;23:159–63.
7. Carapetis JR, Beaton A, Cunningham MW, et al. Acute rheumatic fever and rheumatic heart disease. *Nat Rev Dis Primers.* 2016; 14-2:15084.
8. Articles base. Rheumatic heart disease information (Internet reference), 2014.
9. Kaplan MH, Bolande R, Rakita L, et al. Presence of Bound Immunoglobulins and Complement in the Myocardium in Acute Rheumatic Fever. Association with Cardiac Failure. *N Engl J Med.* 1964;271:637–645.
10. Saphir O. The Aschoff nodule. *Am J Clin Pathol.* 1959;31:534–539
11. Roberts S, Kosanke S, Terrence Dunn S, et al. Pathogenic mechanisms in rheumatic carditis: Focus on valvular endothelium. *J Infect Dis.* 2001;183:507–511.
12. Carson B, Dunbar T, Chenhall RD, et al, eds. Social Determinants of Indigenous Health. Crow's Nest, Sydney, Australia: Allen & Unwin, 2007.
13. Quinn RW. Epidemiology of group A streptococcal infections their changing frequency and severity. *Yale J Biol Med.* 1982;55:265–270.
14. Riaz BK, Selim S, Karim MN, et al. Risk factors of rheumatic heart disease in Bangladesh: a case–control study. *J Health Popul Nutr.* 2013;31:70–77.
15. Jaine R, Baker M, Venugopal K. Acute rheumatic fever associated with household crowding in a developed country. *Pediatr Infect Dis J.* 2011;30:315–319.
16. Okello E, Kakande B, Sebetta E, et al. Socioeconomic and environmental risk factors among rheumatic heart disease patients in Uganda. *PLoS ONE* 2012;7,43917.
17. Steer AC, Carapetis JR, Nolan TM, et al. Systematic review of rheumatic heart disease prevalence in children in developing countries: the role of environmental factors. *J Paediatr Child Health.* 2002;38:229–234.
18. Lawrence, JG, Carapetis JR, Griffiths K, et al. Acute rheumatic fever and rheumatic heart disease: incidence and progression in the Northern Territory of Australia, 1997 to 2010. *Circulation.* 2013;128:492–501.
19. Parnaby MG, Carapetis JR. Rheumatic fever in indigenous Australian children. *J Paediatr Child Health.* 2010;46:527–533.

20. AIHW, Field B. Rheumatic heart disease: all but forgotten except among Aboriginal and Torres Strait Islander peoples. Canberra: Australian Institute of Health and Welfare; Bulletin no. 16. AIHW Cat. No. AUS 48, 2004.
21. Carapetis JR, Wolff DR, Currie BJ. Acute rheumatic fever and rheumatic heart disease in the top end of Australia's Northern Territory. *Med J Aust.* 1996;164:146–9.
22. Carapetis JR, Steer AC, Mulholland EK, et al. The global burden of group A streptococcal diseases. *Lancet Infect Dis.* 2005;5:685–94.
23. Gordis L. The virtual disappearance of rheumatic fever in the United States: lessons in the rise and fall of disease. T. Duckett Jones memorial lecture. *Circulation.* 1985;72:1155–62.
24. Clemmesen S. Rheumatic fever statistics in Denmark from 1878 to 1946 and their significance in prophylaxis. *Acta Medica Scandinavica.* 1949;135:109.
25. Milne RJ, Lennon DR, Stewart JM, et al. Incidence of acute rheumatic fever in New Zealand children and youth. *J Paediatr Child Health.* 2012;48:685–91.
26. Jaine R, Baker M, Venugopal K. Epidemiology of acute rheumatic fever in New Zealand 1996–2005. *J Paediatr Child Health.* 2008;44:564–71.
27. Gurney JK, Stanley J, Baker MG, et al. Estimating the risk of acute rheumatic fever in New Zealand by age, ethnicity and deprivation. *Epidemiol Infect.* 2016;144:3058–67.
28. Rheumatic Fever Report July 2017 to June 2018 [[https://surv.esr.cri.nz/PDF_surveillance/RheumaticFever/Rheumatic fever biannual report July2017-June2018.pdf](https://surv.esr.cri.nz/PDF_surveillance/RheumaticFever/Rheumatic%20fever%20biannual%20report%20July2017-June2018.pdf)]. Accessed 10 Dec 2018.
29. Marijon E, Mirabel M, Celermajer DS, et al. Rheumatic heart disease. *Lancet.* 2012;379:953–964.
30. Rothenbuhler M, O'Sullivan CJ, Stortecky S, et al. Active surveillance for rheumatic heart disease in endemic regions: a systematic review and meta-analysis of prevalence among children and adolescents. *Lancet Glob Health.* 2014;2:717–726.
31. Erdem S, Demir F, Ayana M, Canan O, et al. Acute rheumatic fever in south-east of Turkey: clinical features and epidemiological evaluation of the patients over the last 25 years. *Cardiol Young.* 2020;1:9.
32. Narin N, Mutlu F, Argun M, et al. Incidence and clinical features of acute rheumatic fever in Kayseri, Central Anatolia, 1998–2011. *Cardiol Young.* 2015;25:745–751.
33. Atalay S, Tutar E, Uçar T, et al. Echocardiographic screening for rheumatic heart disease in Turkish schoolchildren. *Cardiol Young.* 2019;1:6.
34. Bowen A, Currie B, Wyber R, et al. The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (3rd edition), 2020.
35. Carapetis J, Currie BJ. Rheumatic fever in a high incidence population: The importance of mono-arthritis and low-grade fever. *Arch Dis Child.* 2001;3:223–37.
36. Lessof M. Sydenham's chorea. *Guy's Hosp Reports.* 1958:185–206.
37. Taranta A, Stollerman GH. The relationship of Sydenham's chorea to infection with group A streptococci. *Am J Med.* 1956;20:170–175.
38. Husby G, van de Rijn I, Zabriskie JB, et al. Antibodies reacting with cytoplasm of subthalamic and caudate nuclei neurons in chorea and acute rheumatic fever. *J Exp Med.* 1976;144:1094–1110.

39. Kirvan CA, Swedo SE, Heuser JS, et al. Mimicry and autoantibody- mediated neuronal cell signaling in Sydenham chorea. *Nat Med.* 2003;9:914–920.
40. Vijayalakshmi I, Vishnuprabhu RO, Chitra N, et al. The e cacy of echocardiographic crite- rions for the diagnosis of carditis in acute rheumatic fever. *Cardiol Young.* 2008;18:586-92.
41. Veasy L, Tani LY, Hill HR. Persistence of acute rheumatic fever in the intermountain area of the United States. *J Pediatr.* 1994;124:9-16.
42. Williams R, Minich LL, Shaddy RE, et al. Evidence for lack of myocardial injury in chil- dren with acute rheumatic carditis. *Cardiol Young.* 2002;12:519-23.
43. Marcus R, Sareli P, Pocock WA, et al. The spectrum of severe rheumatic mitral valve dis- ease in a developing country. Correlations among clinical presentation, surgical patho- logic ndings, and hemodynamic sequelae. *Ann Inter Med.* 1994;3:177-83.
44. Alehan DAC, Hallioglu O. Role of serum cardiac troponin T in the diagnosis of acute rheumatic fever and rheumatic carditis. *Heart.* 2004;6:689-90.
45. Abernethy M, Bass N, Sharpe N, et al. Doppler echocardiography and the early diagnosis of carditis in acute rheumatic fever. *Aust N Z J Med.* 1994;24:530-5.
46. Gewitz, MH, Baltimore RS, Tani LY, et al. Revision of the Jones Criteria for the diagnosis of acute rheumatic fever in the era of Doppler echocardiography: a scientific statement from the American Heart Association. *Circulation.* 2015;131:1806–1818.
47. Hardie K, de Dassel J. Beyond Secondary Prevention of Rheumatic Heart Disease. Com- municable Disease Control Conference. Canberra: Public Health Association, 2019.
48. Ceviz N, Celik V, Olgun H, et al. Accelerated junctional rhythm in children with acute rheumatic fever: is it specific to the disease? *Cardiol Young.* 2014;24:464-8.
49. Karacan M, Isıkay S, Olgun H, et al. Asymptomatic rhythm and conduction abnormali- ties in children with acute rheumatic fever: 24-hour electrocardiography study. *Cardiol Young.* 2010;20:620-30.
50. Nakauyaca AV, Ralph AP, Majoni WS, et al. Case Report: Concurrent Rheumatic Fever and Acute Post-Streptococcal Glomerulonephritis in a High-Burden Setting. *Am J Trop Med Hyg.* 2019;101:1054-7.
51. Dwight R. Johnson, Roger Kurlan, et al. The Human Immune Response to Streptococcal Extracellular Antigens: Clinical, Diagnostic, and Potential Pathogenetic Implications. *Clin Infect Dis.* 2010;50:481–490.
52. Stollerman G, Lewis AJ, Schultz I, et al. Relationship of immune response to group A streptococci to the course of acute, chronic and recurrent rheumatic fever. *Am J Med.* 1956;20:163-9.
53. Manyemba J, Mayosi BM. Penicillin for secondary prevention of rheumatic fever. *Cochrane Database Syst Rev.* 2002;CD002227.
54. World Heart Federation. (2014). Rheumatic heart disease (Internet reference).
55. Currie BJ, Burt T, Kaplan EL. Penicillin concentrations after increased doses of ben- zathine penicillin G for prevention of secondary rheumatic fever. *Antimicrob Agents Chemother.* 1994;38:1203–04.
56. Evidence-based, best practice New Zealand guidelines for rheumatic fever: 3. Proposed rheumatic fever primary prevention Programme. National Heart Foundation of new Zealand, The Cardiac Society of Australia and New Zealand [<http://www.ttphs.govt.nz/vdb/document/368>]. Accessed 10 Dec 2018.

57. World Health Organization. Rheumatic fever and rheumatic heart disease: report of a WHO expert consultation, Geneva, 29 October -1 November 2001. WHO technical report series 923. 2004.
58. Kevat PM, Reeves BM, Ruben AR, et al. Adherence to secondary prophylaxis for acute rheumatic fever and rheumatic heart disease: A systematic review. *Curr Cardiol Rev.* 2017;13:155–66.
59. Chamberlain-Salaun J, Mills J, Kevat PM, et al. Sharing success – Understanding barriers and enablers to secondary prophylaxis delivery for rheumatic fever and rheumatic heart disease. *BMC Cardiovasc Disord.* 2016;16:166.
60. Ralph AP, Fittock M, Schultz R, et al. Improvement in rheumatic fever and rheumatic heart disease management and prevention using a health centre-based continuous quality improvement approach. *BMC Health Serv Res.* 2013;13:525.
61. Remond M, Coyle M, Mills J, et al. Approaches to improving adherence to secondary prophylaxis for rheumatic fever and rheumatic heart disease: a literature review with a global perspective. *Cardiol Rev.* 2016;24:94–8.
62. Liu M, Lu L, Sun R, et al. Rheumatic Heart Disease: Causes, Symptoms, and Treatments. *Cell Biochem Biophys.* 2015;72:861-1.
63. Albert DA, Harel L, Karrison T. The treatment of rheumatic carditis: a review and meta-analysis. *Medicine (Baltimore).* 1995;74,1–12.
64. Cilliers A, Manyemba J, Adler AJ, et al. Anti-inflammatory treatment for carditis in acute rheumatic fever. *Cochrane Database Syst Rev.* 2012;6:003176.
65. Di Filippo S. Prophylaxis of infective endocarditis in patients with congenital heart disease in the context of recent modified guidelines. *Arch Cardiovasc Dis.* 2012;105:454-60.
66. Slavkin HC, Baum BJ. Relationship of dental and oral pathology to systemic illness. *JAMA.* 2000;284:1215–7.
67. Baumgartner H, Bonhoeffer P, De Groot NM, et al. ESC Guidelines for the management of grown-up congenital heart disease (new version 2010). *Eur Heart J.* 2010;31:2915—57.
68. Cahill TJ, Prendergast BD. Infective endocarditis. *Lancet.* 2016;10021:882-93.
69. Baddour LM, Wilson WR, Bayer AS, et al. Infective Endocarditis in Adults: Diagnosis, Antimicrobial Therapy, and Management of Complications: A Scientific Statement for Healthcare Professionals from the American Heart Association. *Circulation.* 2015;15:1435-86.
70. Nishimura R, Carabello BA, Faxon DP, et al. ACC/AHA 2008 Guideline update on valvular heart disease: focused update on infective endocarditis: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines endorsed by the Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. *J Am Coll Cardiol.* 2008;52,676–685.
71. New Zealand Heart Foundation. New Zealand guidelines for rheumatic fever 1: diagnosis, management and secondary prevention. *Heart Foundation of New Zealand* [online], [http://www.waikatodhb.health.nz/assets/for-health-professionals/Primary-care-management-guidelines/ Guidelines-for-Rheumatic-Fever-1-Diagnosis- Management-and-Secondary-Prevention.pdf](http://www.waikatodhb.health.nz/assets/for-health-professionals/Primary-care-management-guidelines/Guidelines-for-Rheumatic-Fever-1-Diagnosis-Management-and-Secondary-Prevention.pdf) (2006).